Implementation of an Enhanced Staffing Grid for Operating Room Daily Assignments

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BOSTON MEDICAL CENTER

Boston Medical Center (BMC), the largest safety net hospital in New England, is a private, not-for-profit, 514-bed, academic medical center located in Boston's historic South End. The hospital is the primary teaching affiliate for Boston University School of Medicine. BMC emphasizes community-based care, with its mission to provide consistently accessible health services to all and provides the full spectrum of pediatric and adult care. BMC is also the largest and busiest provider of trauma and emergency services in New England and has 26 ORs.

INTRODUCTION

The purpose of this project was to improve accuracy matching staff skills to cases on the daily OR schedule by providing a visual prompt and to reduce the amount of time taken to complete next day assignments by eliminating manual entry of staff names into the EHR.

In 2018, BMC merged its two hospital campuses into one with sixteen OR suites, a Hybrid room, and 8 procedural rooms. The merge, combining 150 OR staff into one location, triggered new staffing challenges. Surgical specialties were unique to each campus. Knowledge deficits created by unfamiliar specialties working with new staff and physicians caused anxiety.

A major challenge was assigning staff to the correct service line based on skills and preferences, complicated by staff self-scheduling and surgeon block time. Making assignments took hours to complete. The charge nurses assigned staff to OR rooms using recall, which sometimes led to a mismatch in skill-set to case type. Inappropriately matched staffing assignments resulted in anxiety for staff and physicians.

This project was separated into two phases.

- **Phase I**: auto-populate staff names and schedules into the EHR staffing grid, eliminating manual entry
- **Phase II**: attach competencies to each employee and display on the staffing grid, providing the charge nurse with a visual indicator

CHALLENGES

- Charge nurses needed to learn the skill-sets of employees from the opposite campus
- Staff lack of confidence in own skill level due to knowledge deficits
- Surgeon/staff preference and anxiety over staff assignments
- Staff self-scheduling does not match OR block time schedule
- Competencies for each employee unassessed
- Competency assessments not built in HR software
- EHR staffing grid needed to be refreshed daily to reflect accurate staffing data

PHASE I

Goal: Decrease the amount of time to complete staff assignments by eliminating manual name entry.

Staff schedules for the next 2 weeks were sent over daily from staffing software to the EHR staff assignment grid at 6am. This enabled charge nurses to view data listed under 2 categories: name and shift.

Manual entry of staff names was eliminated which facilitated completing staff assignments. The time to complete the task was reduced by 50%.

PHASE II

Goal: Improve charge nurses' accuracy in matching staff to surgical specialties by room.

Built profiles for all nursing staff, and manually input individual competencies for each staff member into HR software. Exported competencies to staffing software and EHR surgical scheduling grid to provide a visual resource to assist in making assignments.

Information including staff name, schedule, and competency is synthesized and sent to the EHR staffing grid every morning.

STAFFING GRID

Pre-implementation

Phase 1

Phase 2 – after implementation

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COMPETENCY ASSESSMENT

The skill level of each employee was determined based on the ability to act independently as a scrub person and/or a circulating nurse in a given surgical specialty. We created 5 levels of competency based on Benner's theory: orientee, novice, advanced beginner, proficient, expert. Staff were assigned 3 competencies based on educator assessment.

Daily staff names, shift assignments, and competencies are sent to the EHR's staffing grid.

Staff Competency Screen

Competency Descriptions	
Orientee	Develop working knowledge base in Ortho trauma with preceptor; needs repetition to develop skills
Novice	< 2 years experience; scrub independently basic cases (e.g., CR, CRPP, Ex-Fix, ORIF simple fx)
Advanced Beginner	1 year experience working independently; can perform ORIF, complex Fx, IMNs
Proficient	Independent in advanced Ortho Trauma cases, (e.g., acetabulums, emergency/poly-trauma)
Expert	Able to function independently as circulator and scrub in all Ortho trauma cases. Excellent critical thinking skills

NEXT STEPS

- Roll out to ambulatory surgery OR and procedural areas
- Screen enhancements (e.g., color scheme, staff schedule to follow individual to room assignment, view staff proficiency level in the sidebar)
- Staff self-assessment of skills with updates in the HR software

CONCLUSION

We reached our goal by eliminating manual entry of staff names on the scheduling grid. This decreased time in making assignments by 50%. We attached individual competencies and shifts to staff names. Feedback has been positive. Staff skills are better matched to specialties based on assigned competency.